

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) A magnetic head, comprising:  
a seed layer structure comprising  $\text{Al}_2\text{O}_3$ , Ta, and NiFeCr seed layers;  
an antiparallel (AP) pinned layer structure formed ~~above~~ directly on the NiFeCr seed layer; and  
a free layer positioned above the AP pinned layer structure.
2. (ORIGINAL) A head as recited in claim 1, wherein the AP pinned layer structure includes at least two pinned layers having magnetic moments that are self-pinned antiparallel to each other, the pinned layers being separated by an AP coupling layer.
3. (CURRENTLY AMENDED) A head as recited in claim 2, wherein one of the AP pinned layers are is constructed of CoFe and another AP pinned layer is constructed of substantially pure Co.
4. (ORIGINAL) A head as recited in claim 3, wherein the pinned layer closest to the seed layer structure includes CoFe.
5. (CURRENTLY AMENDED) A head as recited in claim 2, wherein the AP pinned layers are ~~both~~ constructed of substantially pure Co.
6. (CURRENTLY AMENDED) A head as recited in claim 2, wherein the AP pinned layers are ~~both~~ constructed of CoFe.

7. (CURRENTLY AMENDED) A head as recited in claim 2, wherein the AP pinned layers are constructed of materials ~~selected to~~ that maximize a magnetostriction of the AP pinned layers.
8. (CURRENTLY AMENDED) A head as recited in claim 1, wherein a thickness of the NiFeCr seed layer is ~~selected to maximize~~ maximizes a GMR signal.
9. (ORIGINAL) A head as recited in claim 1, wherein the head has at least a 10% stronger GMR signal over a head having a substantially similar structure except for the seed layers.
10. (ORIGINAL) A head as recited in claim 1, wherein the head has at least a 10% stronger GMR signal over a head having a substantially similar structure except for materials used to form the pinned layers.
11. (ORIGINAL) A head as recited in claim 1, wherein the head forms part of a GMR head.
12. (ORIGINAL) A head as recited in claim 1, wherein the head forms part of a CIP GMR sensor.
13. (CURRENTLY AMENDED) A magnetic head, comprising:  
a seed layer structure comprising  $\text{Al}_2\text{O}_3$ , Ta, and NiFeCr seed layers;  
an antiparallel (AP) pinned layer structure formed above the NiFeCr seed layer,  
wherein one of the AP pinned layers ~~are~~ is constructed of CoFe and  
another of the AP pinned layers is constructed of substantially pure Co,  
wherein the pinned layer closest to the seed layer structure includes CoFe; and

a free layer positioned above the AP pinned layer structure.

14. (ORIGINAL) A head as recited in claim 13, wherein the head has at least a 10% stronger GMR signal over a head having a substantially similar structure except for the seed layers.
15. (ORIGINAL) A head as recited in claim 13, wherein the head has at least a 10% stronger GMR signal over a head having a substantially similar structure except for materials used to form the pinned layers.
16. (ORIGINAL) A head as recited in claim 13, wherein the head forms part of a GMR head.
17. (CURRENTLY AMENDED) A magnetic head, comprising:  
a seed layer structure comprising  $\text{Al}_2\text{O}_3$ , Ta, and NiFeCr seed layers;  
an antiparallel (AP) pinned layer structure formed above the NiFeCr seed layer,  
wherein one of the AP pinned layers ~~are~~ is constructed of substantially pure Co and another of the AP pinned layers is constructed of substantially pure Co; and  
a free layer positioned above the AP pinned layer structure.
18. (ORIGINAL) A head as recited in claim 18, wherein the head has at least a 10% higher positive magnetostriction over a head having a substantially similar structure except for the seed layers.
19. (ORIGINAL) A magnetic storage system, comprising:  
magnetic media;  
at least one head for reading from and writing to the magnetic media, each head  
having:

a sensor having the structure recited in claim 1;  
a write element coupled to the sensor;  
a slider for supporting the head; and  
a control unit coupled to the head for controlling operation of the head.

20. (NEW) A magnetic storage system, comprising:  
magnetic media;  
at least one head for reading from and writing to the magnetic media, each head  
having:  
a sensor having the structure recited in claim 13;  
a write element coupled to the sensor;  
a slider for supporting the head; and  
a control unit coupled to the head for controlling operation of the head.